

Has Family Leave Legislation Increased Leave-Taking?

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ABSTRACT

In 1993, the federal government passed the Family and Medical Leave Act (FMLA), which gives eligible employees twelve weeks of job-protected unpaid leave from work per year to address family issues.¹ Employees are eligible for family leave under the FMLA if they have worked for their employer for at least a year, accumulating at least 1,250 work hours.² Employers are covered if they employ at least fifty workers.³ Prior to the FMLA's passage, twelve states and the District of Columbia had passed their own family leave legislation mandating similar benefits.⁴ One potential use of family leave legislation is to give mothers leave from work after giving birth. One potential use of this legislation is to allow mothers leave from work after giving birth. In this Article, I estimate the effects of family leave legislation on mothers' leave-taking after giving birth. I examine the effects of family leave legislation as a natural

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1. 29 U.S.C. § 2612(a)(1) (2000); *see also* Suzanne M. Crampton & Jitendra M. Mishra, *Family and Medical Leave Legislation: Organizational Policies and Strategies*, 24 PUB. PERSONNEL MGMT. 271, 272 (1995).

2. 29 U.S.C. § 2611(2)(A)(ii) (2000).

3. *Id.* § 2611(4)(A)(i) (2000).

4. *See* BUREAU OF NAT'L AFFAIRS, PREGNANCY AND EMPLOYMENT: THE COMPLETE HANDBOOK ON DISCRIMINATION, MATERNITY LEAVE, AND HEALTH AND SAFETY (1987); WOMEN'S LEGAL DEFENSE FUND, STATE LAWS AND REGULATIONS GUARANTEEING EMPLOYEES THEIR JOBS AFTER FAMILY AND MEDICAL LEAVE (1994); Jacob A. Klerman & Arleen Leibowitz, *Labor Supply Effects of State Maternity Leave Legislation*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE 65-85 (Francine D. Blau & Ronald G. Ehrenberg eds., 1997).

experiment because state family leave laws (passed prior to the FMLA) vary both in scope and in dates of enforcement. I also identify the mothers who have the employment history to be eligible for the mandated leave benefits and who work for employers of sufficient size to be covered by their state's legislation. My results suggest that family leave legislation has had little effect on leave-taking.

I. INTRODUCTION

The FMLA was not initially met with universal approval—it was vetoed twice by President George H.W. Bush, but signed into law by President Clinton. Today, ten years after the legislation went in to effect, reviews are still mixed. Some feel that the FMLA has imposed upon employers the costly administrative burden of tracking who is eligible for leave from work.⁵ Another criticism is that employees take leave from work for illnesses that are not necessarily covered by the legislation, such as “pink eye, sprained ankles, and the common cold.”⁶ Conversely, others view the FMLA as beneficial and are calling for extensions to the legislation. For example, in 2004, California will become the first state to mandate paid family leave benefits.⁷ Specifically, California will require employers to provide six weeks of paid leave; workers on leave will receive up to fifty-five percent of what they would otherwise earn, with a maximum payment of \$728 per week.⁸ Connecticut Senator Christopher Dodd is currently drafting legislation that would provide federal financial support to states that mandate paid family leave.⁹ His proposed legislation would also lower the coverage threshold to employers with at least twenty-five employees.¹⁰

5. See, e.g., Shawn Smith, *Ten Years Old, the FMLA Still Poses Complications*, 42 FAIRFIELD COUNTY BUS. J. 4 (2003).

6. *Happy Birthday FMLA! You Need an Overhaul*, EXECUTIVE'S TAX & MGMT. REP., May 7, 2003, at 11 (quoting Susan Meisinger, Society for Human Resource Management President and CEO).

7. Tom Klett, *Challenges Loom from California's Paid Family Leave*, EMPLOYEE BENEFIT NEWS, July 1, 2003, at 35.

8. *Id.*

9. *Id.* at 39.

10. Jerry Geisel, *Bill to Expand FMLA Introduced in Senate*, 37 BUS. INS. 27, 15 (Feb. 10,

To determine if extensions or reductions in government-mandated family leave benefits are warranted, one must first understand the effects of the current provisions. One important potential effect of family leave legislation is its impact on the incidence of maternal leave-taking after giving birth, and on the duration of the maternity leave taken. Family leave legislation could cause employers who previously provided no leave benefits to offer family leave for the first time, granting some mothers leave from work who were previously allowed none. Similarly, family leave legislation could require employers to change existing policies, allowing some mothers to take longer periods of leave. Conversely, family leave legislation might not have substantial effects on family leave if many employers already offered sufficient leave prior to the passage of family leave legislation. Additionally, family leave legislation might not affect maternity leave for mothers who are not eligible for or covered by the legislation because they have an insufficient tenure or their employer is too small. Further, since the mandated leave is unpaid, many mothers may not wish to use the mandated leave benefits due to financial constraints.

In this Article, I estimate the effects of family leave legislation on the probability that mothers take maternity leave after giving birth and on the weeks of maternity leave mothers take,¹¹ using National Longitudinal Survey of Youth (NLSY) data.¹² Because the NLSY identifies each respondent's state of residence, I could determine whether each mother lived in a state at a time when family leave legislation was in force. I studied the effects of family leave legislation as a natural experiment, which is possible because state family leave laws passed prior to the FMLA vary both in scope and in dates of enforcement.¹³ Technically, I compared mothers who give

2003).

11. The scope of this Article is limited to state family leave legislation passed prior to the FMLA (1993).

12. CENTER FOR HUMAN RESOURCE RESEARCH, NLSY79 USER'S GUIDE (2001) [hereinafter NLSY79 USER'S GUIDE].

13. For example, in 1992, California passed legislation mandating seventeen weeks of unpaid family leave, and in 1990, Connecticut passed legislation mandating twelve weeks of unpaid family leave. Klerman & Leibowitz, *supra* note 4. Similarly, between 1972 and the enforcement date of the FMLA, Maine, Minnesota, Massachusetts, New Jersey, Oregon, Rhode Island, Tennessee, Vermont, Washington, Wisconsin, and the District of Columbia passed

birth in states at times with mandated family leave benefits with mothers who give birth in states without family leave legislation. Then, I re-estimated the models identifying the mothers who have the work history to be eligible for the mandated leave benefits and who work for employers of sufficient size to be covered by their state's legislation. My results suggest that family leave legislation has no effect on the incidence of leave-taking. There is some evidence that such legislation increases the number of weeks of maternity leave taken, however, even where statistically significant, the effects of the legislation are small.

Existing evidence is presented in Part II, the empirical approach is outlined in Part III, the data is described in Part IV, and the results are presented in Part V.

II. LITERATURE REVIEW

Only a few studies using multivariate regression analysis have examined the effects of family leave legislation in the United States.¹⁴ While other research has analyzed the effects of government-mandated leave in Europe,¹⁵ the results from these studies may not characterize the effects of family leave legislation in the United States, because European mandates provide significantly longer leave and a financial stipend.¹⁶

family leave provisions mandating between six and sixteen weeks of family leave. *Id.*

14. See, e.g., Charles L. Baum, II, *The Effects of Maternity Leave Legislation on Mothers' Labor Supply after Childbirth*, 69 S. ECON. J. 772 (2003) [hereinafter *Mothers' Labor Supply*]; Charles L. Baum, II, *The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages*, 10 LAB. ECON. 573 (2003) [hereinafter *Employment and Wages*]; Klerman & Leibowitz, *supra* note 4; Joane Waldfogel, *The Impact of the Family and Medical Leave Act*, 18 J. POL'Y ANALYSIS & MGMT. 281 (1999).

15. See Christopher Ruhm & Jackaueine L. Teague, *Parental Leave Policies in Europe and North America*, in GENDER AND FAMILY ISSUES IN THE WORKPLACE 133-57 (Francine D. Blau & Ronald G. Ehrenberg eds., 1997); Christopher Ruhm, *The Economic Consequences of Parental Leave Mandates: Lessons from Europe*, 113 Q.J. ECON. 285 (1998); C.R. Winegarden & Paula M. Bracy, *Demographic Consequences of Maternal Leave Programs in Industrial Countries: Evidence from Fixed-Effects Models*, 61 S. ECON. J. 1020 (1995); J. Ondrich et al., *Full Time or Part Time? German Parental Leave Policy and the Return to Work after Childbirth in Germany* (1998) (unpublished manuscript, on file with the Washington University Journal of Law & Policy).

16. For a summary of European family leave provisions, see Ruhm, *supra* note 15, at 297.

Examining United States Census data from 1980 and 1990, Klerman and Leibowitz estimated the effects of state family leave legislation on mothers' employment status.¹⁷ Their results are sensitive to their model's specification, with the effects of family leave legislation changing when different sets of covariates are included.¹⁸ If anything, their preferred results showed that state maternity leave legislation has not significantly affected whether a mother is employed, working, or on leave.¹⁹

Using descriptive statistics from the Bureau of Labor Statistics' Employee Benefits Survey and the 1994 Westat survey, Waldfogel found that the amount of family leave allowed by firms increased after the FMLA's passage.²⁰ For example, two-thirds of employers reported changing their leave policies to meet FMLA requirements.²¹ Using Current Population Survey data, Waldfogel found that the FMLA has had a small, positive effect on leave-taking among employees of medium sized firms (with 100 to 499 employees) but no effect on employees of large firms (500 or more employees).²² Further, her results showed no significant effects on employment and wages.²³

In two studies that use NLSY data, Baum examined the effects of family leave legislation on the probability and timing of mothers returning to work at their pre-childbirth jobs and on employment and wages for women of childbearing age.²⁴ Baum found that family leave legislation increases the number of mothers who eventually return to their pre-childbirth jobs, and allows such mothers to delay their return by several weeks.²⁵ Baum believed this occurs primarily because some mothers who would have gotten a new job after giving birth can return to their old employer instead.²⁶ Consequently, Baum

17. Klerman & Leibowitz, *supra* note 4.

18. *Id.* at 81.

19. *Id.* at 82.

20. Waldfogel, *supra* note 14, at 285.

21. *Id.* at 285–88.

22. *Id.* at 274.

23. *Id.* at 296–99.

24. See *Mother's Labor Supply*, *supra* note 14; *Employment and Wages*, *supra* note 14.

25. *Mother's Labor Supply*, *supra* note 14, at 793–96.

26. *Id.*

found that family leave legislation has not affected overall employment levels or wages among women of childbearing age.²⁷

The existing literature has shortcomings. First, because much of the literature uses cross-sectional data instead of panel data, it is only able to determine family leave legislation's effect at a particular point in time, such as family leave legislation's effect on employment at the time of the survey. For example, these studies are unable to examine family leave legislation's effect on the amount of maternity leave taken over the initial weeks after giving birth. Additionally, much of the literature fails to determine whether mothers have the requisite work history to be eligible for government-mandated family leave and whether mothers work for employers of sufficient size to be covered by the mandates.²⁸ This is important because many mothers who live in states where family leave legislation is in force do not actually have access to the mandated maternity leave because they do not have the appropriate tenure or they work for employers who employ too few employees.

III. ESTIMATION METHODOLOGY

I identified the effects of family leave legislation on maternity leave with variation in state family leave laws. This was feasible because some states passed family leave legislation prior to the 1993 FMLA while others did not.²⁹ Furthermore, the states that did pass family leave mandates did so at different times. Table 1 lists the states that passed leave legislation prior to 1993, as well as the characteristics of each state's legislation.³⁰ Thus, I compared women

27. *Employment and Wages*, *supra* note 14.

28. Waldfogel looks at firm size, but not the employee's work history. *See* Waldfogel, *supra* note 14.

29. In particular, California, Connecticut, Maine, Minnesota, Massachusetts, New Jersey, Oregon, Rhode Island, Tennessee, Vermont, Washington, Wisconsin, and the District of Columbia passed family leave legislation prior to the 1993 FMLA. Klerman & Leibowitz, *supra* note 4.

30. Although the Women's Defense Fund lists twenty-three states as having family leave laws as of 1993, I considered several of those states' leave legislation to be non-binding for private employers and set the family leave legislation variable equal to zero for observations in those states. WOMEN'S LEGAL DEFENSE FUND, *supra* note 4. Additionally, I believe Klerman & Leibowitz did not include all relevant states, thus Table 1's list of states is in agreement with those used by Waldfogel. *See* Waldfogel, *supra* note 14.

who lived in states at times when family leave legislation is in force with women who lived in states without family leave legislation.

TABLE 1: CHARACTERISTICS OF STATE AND FEDERAL FAMILY LEAVE LEGISLATION

<u>State</u>	<u>Weeks of Leave</u>	<u>Employer Size</u>	<u>Tenure Required</u>	<u>Date of Enforcement</u>	<u>Work Requirement</u>
California ^a	17	No Minimum	1 year	1/92	No Minimum
Connecticut ^b	12	75 employees	1 year	7/90	1000 hrs in prior yr.
D.C.	16	50 employees	1 year	4/91	1000 hrs in prior yr.
Federal FMLA	12	50 employees	1 year	7/93	1250 hrs in prior yr.
Maine	8	25 employees	1 year	4/88	No minimum
Minnesota	6	21 employees	1 year	7/87	20 hrs per week
Massachusetts	8	6 employees	3 months	10/72	Full-time
New Jersey	12	75 employees	1 year	4/90	1000 hrs in prior yr.
Oregon	12	25 employees	90 days	1/88	No minimum
Rhode Island	13	50 employees	1 year	7/87	Full-time
Tennessee	16	100 employees	1 year	1/88	Full-time
Vermont	12	10 employees	1 year	7/92	30 hrs per week
Washington ^c	12	100 employees	1 year	9/89	35 hours per week
Wisconsin	6	50 employees	1 year	4/88	1000 hrs in prior yr.

a. California passed legislation mandating leave for disability in 1980.

b. Connecticut passed legislation mandating leave for disability in 1973.

c. Washington passed legislation mandating leave for disability in 1973.

However, comparing mothers in states with and without family leave legislation will produce misleading results if differences in the amount of leave taken between the two groups are due to time-invariant, state-specific effects that are not the result of the legislation. For example, if states that passed family leave legislation have mothers who already took more maternity leave from work prior to the legislation, then greater leave-taking would spuriously appear due to the legislation. To control for such effects, I included state-

specific dummy variables. Similarly, estimates will be biased if the passage of family leave legislation over time is correlated with but not due to time trends. For example, if leave-taking among mothers would have increased over time in the absence of any family leave legislation (perhaps as more women have entered the labor force), then increased maternity leave-taking will spuriously appear due to family leave legislation. To control for time trends, I included year-specific dummy variables for each year covered by the model. This produced a difference-in-difference (DD) model given by:

$$Y_i = \alpha_0 + \alpha_1 \mathbf{X}_i + \alpha_2(\mathit{state}_{ij}) + \alpha_3(\mathit{year}_{it}) + \alpha_4(\mathit{family\ leave\ legislation}) + \varepsilon_i(1)^{31}$$

Unfortunately, the family leave legislation variable will pick up all state-specific, year-specific effects including the effect of the legislation without a control group from each state for whom family leave legislation has no effect. Therefore, for each state, regardless of whether that state passed its own legislation, I included a “treatment” group affected by family leave legislation and a “control” group not affected by the legislation. Then, I compared a treatment group and a control group in each state that had family leave legislation with a treatment group and control group in each state that did not have family leave legislation.³² This produced a difference-in-difference-in-difference (DDD) estimator that provided unbiased effects of family leave legislation, assuming there were no contemporaneous shocks that are correlated with but not due to family leave legislation, which affect only the treatment group in states with family leave mandates.

31. For observation i in state j in year t , where Y is the dependant variable (a measure of maternity leave-taking), \mathbf{X} is explanatory variables (such as demographic characteristics), state_j is state dummy variables (state_j equals 1 if individual i lives in state j), year_t is year-specific dummy variables (year_t equals 1 if individual i is in year t), and $\mathit{family\ leave\ legislation}$ equals 1 if government-mandated family leave is in force for individual i in state j at time t . In this specification, α_4 is the effect of the family leave legislation on leave taking.

32. This follows the methodology of Jonathan Gruber & Brigitte C. Madrian, *Health-Insurance Availability and the Retirement Decision*, 85 AM. ECON. REV. 938 (1995), Jonathan Gruber, *The Incidence of Mandated Maternity Benefits*, 84 AM. ECON. REV. 622–41 (1994) [hereinafter *Incidence*]; Ruhm, *supra* note 15; Jonathan Gruber, *The Efficiency of a Group-Specific Mandated Benefit: Evidence from Health Insurance Benefits for Maternity* (1992) (unpublished manuscript, on file with author).

In the DDD portion of the analysis, I used three treatment groups. The first group was “eligible” mothers, defined as mothers with the requisite work history to be eligible for the mandated family leave. The second group was “covered” mothers, defined as those who work for employers with the requisite number of employees to be covered by the family leave legislation. The third treatment group was “eligible and covered” mothers, defined as eligible mothers working for covered employers. I expected family leave legislation to have its strongest effect on the third group. The corresponding control groups were comprised of ineligible mothers, mothers who work for employers not covered by the legislation, and ineligible and noncovered mothers, respectively.

The regression specification Gruber³³ and Waldfogel used is:³⁴

$$Y_i = \alpha_1 + \alpha_2 \mathbf{X}_i + \alpha_3(\text{state}_{ij}) + \alpha_4(\text{year}_{it}) + \alpha_5(\text{state}_{ij} * \text{year}_{it}) + \alpha_6(\text{family leave legislation}_i) + \varepsilon_2(2)^{35}$$

IV. DATA

I used NLSY data to estimate family leave legislation’s effects on mothers’ leave-taking.³⁶ First, I selected women who gave birth from 1988 to 1993.³⁷ From this group, I excluded observations that did not provide the requisite information to be used in the estimation. I also excluded mothers who were not employed before giving birth, as they were not expected to take any maternity leave from work.³⁸ This

33. *Incidence*, *supra* note 32.

34. Waldfogel, *supra* note 14.

35. For observation *i* in state *j* in year *t*, where *Y*, *X*, *state_j*, *year_t*, and *family leave legislation* are as defined above and *state_j*year_t* is state-specific year-specific interaction terms controlling for state-specific time trends. In this specification, α_6 picks up the effect of family leave legislation on leave-taking.

36. See NLSY79 USER’S GUIDE, *supra* note 12, at 3. Beginning in 1979, the NLSY began collecting yearly information on the labor market experiences and background characteristics of people who were between the ages of fourteen and twenty-one in 1979; the survey remains in progress. The original NLSY sample contained 6,283 women and an oversample of blacks, Hispanics, low-income whites, and military personnel. *Id.* The military sample was dropped in 1984 and the low-income white sample was dropped in 1990, thus I did not include respondents from either sample. *Id.* at 24.

37. I only included births for which there is sufficient data to determine the mother’s employment status in the first several months after giving birth.

38. I considered mothers to be employed prior to giving birth if they worked for an

left 2,877 births from 2,180 mothers to be included in my sample. I controlled for correlation among observations that come from the same respondent because such observations are not independent from one another.³⁹

The NLSY collects extensive information on each mother's employment status, which enabled me to identify whether she was employed during each week after giving birth.⁴⁰ The NLSY also identifies unpaid gaps in employment when the individual was employed but not working, due to maternity leave.⁴¹ However, prior to the 1988 survey, it was not possible to identify whether employed respondents were actually working or on paid leave.⁴² This distinction is important because many mothers who are employed after giving birth are not actually working but instead are on leave. Fortunately, beginning with the 1988 survey, the main NLSY questionnaire began identifying whether employed mothers were working or on paid leave.⁴³ Thus, I only included children who were born after 1987 in my sample, in order to identify paid maternity leave. Unfortunately, after the 1994 survey, the NLSY stopped interviewing respondents annually, and began interviewing biennially.⁴⁴ Although the work history file continues to track respondents on a weekly basis, biennial year-long gaps began which made it impossible to identify paid leave. Therefore, my sample only contains births during the 1988 through 1993 surveys. When weighted, my sample is a nationally representative sample of children born between 1988 and 1993 to mothers who were between the ages of 23 and 30 in 1988.⁴⁵

employer within three months before giving birth. Three months was chosen because it is within this period that most working pregnant women from my sample stop working.

39. This is done using the "cluster" command in STATA. This command relaxes the assumption of error independence between observations from the same person, instead defining an error structure where only errors between observations with different people are independent. Without controlling for such correlation, results would lead to underestimated standard errors and overestimated significance levels.

40. NLSY79 USER'S GUIDE, *supra* note 12, at 296.

41. *Id.*

42. *Id.* at 267.

43. *Id.*

44. *Id.* 22.

45. This sample is limited in that mothers younger than twenty-three and older than thirty-five who could be affected by the legislation are not represented in my sample.

Using the work history described above, I identified the amount of maternity leave each mother took from work after giving birth. Specifically, I created three dependent variables that reflect various aspects of mothers' leave-taking: (1) A variable indicating whether each mother took any maternity leave from work after giving birth; (2) The number of weeks of leave taken (including zero values); and (3) The number of weeks of leave taken among mothers who took leave.⁴⁶ Almost thirty-nine percent of the mothers in my sample took maternity leave, with the average duration of leave taken being 3.331 weeks (or 8.611 weeks among leave-takers). The statistics in Table 2 also indicate that the incidence of leave taking is positively correlated with family leave legislation: 44.9% of mothers with government-mandated family leave benefits take maternity leave from work, compared to 37.7% of mothers without family leave legislation. Similarly, mothers with family leave mandates take an average of 4.197 weeks of maternity leave, compared to 3.197 weeks for mothers without such mandated benefits. Among leave-takers, the duration of maternity leave is 9.341 and 8.477 for those with and without family leave legislation, respectively.

TABLE 2: SAMPLE MEANS

<u>Dependant Variable</u>	<u>Full Sample</u>		<u>With Leave</u>	<u>Without Leave</u>
Took Maternity Leave	0.386	(0.487)	0.449	0.377
Weeks of Leave Taken	3.331	(5.313)	4.197	3.197
Leave Taken by Leavers	8.611	(5.245)	9.341	8.477
Observations	2877		385	2492
			<u>Eligible Women</u>	<u>Ineligible Women</u>
Took Maternity Leave			0.677	0.366
Weeks of Leave Taken			6.333	3.120

46. Table 2 presents these variables' averages and standard deviations, as well as their descriptive statistics for subsamples of mothers who gave birth with and without family leave legislation in force.

<u>Dependant Variable</u>	<u>Full Sample</u>	<u>With Leave</u>	<u>Without Leave</u>
Leave Taken by Leavers		9.351	8.515
Observations		189	2688
		<u>Covered Firms</u>	<u>Firms Not Covered</u>
Took Maternity Leave		0.673	0.556
Weeks of Leave Taken		6.918	4.703
Leave Taken by Leavers		10.272	8.452
Observations		147	1567
		<u>Eligible and Covered</u>	<u>Not Eligible and Covered</u>
Took Maternity Leave		0.757	0.554
Weeks of Leave Taken		7.646	4.725
Leave Taken by Leavers		10.093	8.516
Observations		99	1615
<u>Explanatory Variables</u>	<u>Full Sample</u>	<u>With Leave</u>	<u>Without Leave</u>
Black (= 1 if black)	0.242 (0.428)	0.101	0.264
Hispanic (= 1 if Hispanic)	0.190 (0.392)	0.174	0.193
Age (in years)	27.993 (2.670)	28.911	27.851
Education Level (years of schooling)	12.836 (2.372)	12.833	12.837
Marital Status (= 1 if married)	0.744 (0.436)	0.794	0.736
Children (= number of children)	1.724 (1.206)	1.654	1.735
Experience (in weeks)	344.575 (185.29)	416.779	333.420

Standard deviations are in parentheses. Also included in the analysis but not presented here are state dummy variables and year-specific dummy variables.

The key variable of interest is the family leave legislation variable, which equals the weeks of leave the mandates guarantee. If a mother gives birth in a state with no family leave legislation or lives in a state at a time before that state's legislation was in force, then the family leave legislation variable equals zero. Of the 2,877 mothers

used in my analysis, 385 had government-mandated family leave and 2,492 did not.

To acquire family leave benefits, mothers may leave their state of residence to work in bordering states with government-mandated family leave in force. If border crossing occurs, then the effect of family leave legislation in the state of residence will be biased toward zero. Fortunately, the NLSY also identifies county of residence.⁴⁷ Therefore, I was able to account for the effects of border crossing, by re-estimating the models in three ways. First, I included a border dummy variable in the model that equaled one if the mother resided in a county that borders another state. Second, I averaged the length of leave mandated by the state of residence family leave legislation with the maximum family leave mandated from neighboring states, where a neighboring state is one that borders the mother's county of residence. Third, I specified family leave mandates to equal the most generous mandates among the state of residence and neighboring states, if a bordering state existed as defined above.

The family leave legislation variable does not account for whether the mother has the tenure to be eligible for leave or whether her employer is of sufficient size to be covered, because these potentially depend on previous employment decisions—whether and where to work prior to giving birth. If such decisions are determined by the same factors as leave-taking, then eligibility and employer coverage are endogenous. Instead, the family leave legislation variable serves as an instrument for eligibility and coverage because it exogenously assigns mothers mandated family leave based on state of residence.

For comparison purposes, I created three additional family leave legislation variables to pick up the effect of the mandates on mothers who were eligible for the benefits and/or who worked for covered employers. The first of these additional variables identified whether the mother was eligible for mandated family leave benefits. Specifically, this variable equals the weeks of mandated leave if the mother gives birth in a state with family leave legislation and if the mother has the work history required to be eligible.⁴⁸ Shown in Table

47. NLSY79 USER'S GUIDE, *supra* note 12, at 156.

48. Table 1 lists the tenure required to be eligible for each state's leave mandate.

2, of the 385 mothers who give birth in states with family leave legislation in force, 189 had the tenure required to be eligible.

The second additional family leave legislation variable identified whether the mother was employed by an employer covered by the mandates. In particular, this variable equals the weeks of mandated leave if the mother gives birth in a state with family leave legislation and if she worked for an employer who employed at least the minimum number of workers to be covered by the legislation. It is possible to determine employer coverage status for most mothers because the NLSY asks respondents for the number of employees who work for their current employer at the time of the survey.⁴⁹ Unfortunately, employer size is unknown for those mothers who worked for an employer who was not the “current employer” at the time of the survey. Of the 385 mothers who gave birth in states with family leave legislation in force, 147 are known to be covered.

The third additional family leave legislation variable is a variant of the first two—it equals the weeks of leave mandated for mothers who gave birth in states with family leave legislation in force who were eligible and worked for covered employers. Only ninety-nine mothers were eligible and known to be covered. Table 2 shows that eligible mothers are more likely to take maternity leave from work after giving birth and to take more weeks of leave. The same is true for mothers who work for covered employers and for mothers who are both eligible and covered. When I estimated the effect of family leave legislation for mothers who were eligible and/or worked for covered employers, I also included covariates to control for tenure and/or firm size. Otherwise, the family leave legislation variable would serve as a proxy for the effects of the legislation and the effect of tenure and/or firm size.

In addition to the state and year dummy variables described in Part III, I included a set of demographic characteristics variables to control for race (with black and Hispanic dummy variables), age, education, marital status, children present in the household, and weeks of work experience.⁵⁰ Mothers who lived in states with family

49. NLSY79 USER'S GUIDE, *supra* note 12, at 156. Table 1 lists the firm size required to be covered by each state's leave mandate.

50. Table 2 also presents descriptive statistics for the demographic variables and

leave legislation were less likely to be black and Hispanic, were older, were more likely to be married, and have fewer children. Mothers with family leave mandates also had substantially more work experience.

V. RESULTS

First, I estimated the effects of family leave legislation on the incidence of leave-taking and on the amount of leave taken. The family leave legislation-related results from these models are presented in Table 3. Then, I re-estimated the models using the various methods to control for potential border crossing. The relevant results from these models are also presented in Table 3. Next, I re-estimated the models identifying mother eligibility and employer coverage. Results from these models are presented in Tables 4 and 5.

The effect of family leave legislation on the probability of taking maternity leave after giving birth (Model 1) is small and statistically insignificant. Similarly, the effect of mandated family leave on the weeks of leave taken including zero values for mothers who take no leave (Model 2) is statistically insignificant. The legislation's effect on weeks of leave taken among leave-takers is also not statistically different from zero. While the descriptive statistics indicate that government-mandated family leave benefits and leave-taking are positively associated, the multivariate regression results suggest that family leave legislation has no effect on leave-taking. In models not shown, the positive associations of family leave legislation on leave-taking appear due to state-specific effects and time trends. That is, when state and year dummy variables are added to the regressions, positive effects of the legislation disappear.

descriptive statistics for subsamples of mothers in states with and without family leave legislation in force.

TABLE 3: THE EFFECT OF FAMILY LEAVE LEGISLATION ON WEEKS OF MATERNITY LEAVE TAKEN

	<u>Model 1: Took</u>	<u>Model 2: Weeks</u>	<u>Model 3: Leave</u>			
	<u>Maternity Leave</u>	<u>of Leave Taken</u>	<u>Taken by Leavers</u>			
<u>Specification 1:</u>						
Weeks of Mandated Family Leave	-0.001	(0.017)	0.014	(0.034)	-0.019	(0.057)
<u>Specification 2:</u>						
Weeks of Mandated Family Leave	0.001	(0.017)	0.014	(0.034)	-0.019	(0.057)
State Border Dummy Variable	-0.062	(0.121)	0.083	(0.229)	0.330	(0.392)
<u>Specification 3:</u>						
Average Weeks of Mandated Family Leave	0.002	(0.019)	0.015	(0.037)	-0.026	(0.062)
<u>Specification 4:</u>						
Maximum Weeks of Mandated Family Leave	-0.001	(0.014)	0.001	(0.027)	-0.021	(0.048)

The dependent variable in the “took maternity leave” model is a dummy variable that equals one if the mother took maternity leave from work. The dependent variable in the “weeks of leave taken” model is equal to the number of weeks of maternity leave taken from work including zero values. The dependent variable in the “leave taken by leavers” model is the number of weeks of maternity leave taken by those who took a positive amount of maternity leave from work. *indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level. Standard errors are in parentheses. There are 2,877 observations used in Models 1 and 2 and 1,113 in Model 3. R-squared values are 0.242 for Model 1, 0.206 for Model 2, and range from 0.138 to 0.139 for Model 3 (depending on the specification). All models contain the demographic covariates as well as state and year dummy variables.

These results may be biased due to border crossing. To investigate this possibility, I re-estimated the models (Models 1 through 3) controlling for living on a state border with a border dummy variable (Specification 2). However, the results were virtually unchanged: Family leave legislation continues to have a statistically insignificant effect, as does the effect of living in a county that borders another state. Specification 3 re-estimated the model using the average weeks of leave mandated by family leave legislation. That is, it reflected the average weeks mandated among the state of residence and bordering states, if any. The results were, again, left substantively unchanged:

The family leave legislation variable does not have a statistically significant effect in any of the models. The same occurs in Specification 4, which used the maximum weeks of mandated family leave among the state of residence and any border states. These results suggest that border crossing does not have a substantive effect on the estimates.

It is possible that the family leave legislation variables appear to have no effect on leave-taking because they incorrectly assign ineligible (or uncovered) mothers weeks of mandated family leave. Therefore, I re-estimated the models identifying those mothers who were eligible for the legislation (Specification 5). The results again indicate that family leave legislation does not significantly impact the incidence of leave-taking or the amount of leave taken among mothers eligible for the mandated leave from work. However, when I identified the effect of mandated family leave among mothers employed in covered firms (Specification 6), the legislation had a statistically significant, positive effect on the duration of leave taken. According to the results in Model 2, increasing the weeks of mandated family leave from, for example, zero to twelve, increases the number of weeks of leave taken by 1.116 weeks. Further, increasing mandated family leave by the same amount in Model 3 increases the amount of leave taken among leave-takers by 1.704 weeks. Although these are small effects, they are statistically significant. However, since the family leave legislation variable has no effect in Model 1, there is still no evidence that such leave changes the number of mothers who take maternity leave. Specification 7 identified the effect of family leave legislation among eligible mothers who worked for covered employers, and the family leave legislation variable again had effects that were not statistically different from zero.

TABLE 4: THE EFFECT OF FAMILY LEAVE LEGISLATION ON
WEEKS OF MATERNITY LEAVE TAKEN

	<u>Model 1: Took</u>	<u>Model 2: Weeks</u>	<u>Model 3: Leave</u>
	<u>Maternity Leave</u>	<u>of Leave Taken</u>	<u>Taken by Leavers</u>
<u>Specification 5:</u>			
Weeks of Mandated Family Leave (eligible women)	-0.001 (0.021)	0.017 (0.045)	-0.036 (0.060)
R-Squared	0.332	0.254	0.144
Observations	2,877	2,877	1,113
<u>Specification 6:</u>			
Weeks of Mandated Family Leave (covered employers)	-0.002 (0.024)	0.093* (0.055)	0.142** (0.068)
R-Squared	0.162	0.181	0.157
Observations	1,714	1,714	971
<u>Specification 7:</u>			
Weeks of Mandated Family Leave (eligible and covered)	0.008 (0.032)	0.087 (0.065)	0.095 (0.068)
R-Squared	0.216	0.205	0.157
Observations	1,714	1,714	971

The dependent variable in the “took maternity leave” model is a dummy variable that equals one if the mother took maternity leave from work. The dependent variable in the “weeks of leave taken” model is equal to the number of weeks of maternity leave taken from work including zero values. The dependent variable in the “leave taken by leavers” model is the number of weeks of maternity leave taken by those who took a positive amount of maternity leave from work. *indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level. Standard errors are in parentheses. All models contain the demographic covariates as well as state and year dummy variables. In addition, Specification 5 controls for tenure, specification 6 controls for number of employees, and Specification 7 controls for tenure and number of employees.

Table 5 presents results from models that re-estimated Specifications 5, 6, and 7 as Specifications 8, 9, and 10, including the state-year interactions terms. These specifications are difference-in-difference-in-differences (DDD) models because they control for state-specific time trends. Consequently, they represent the best attempt at identifying the true effect of family leave legislation.

The results are similar to those displayed in Table 4, suggesting that those estimates were not biased by state time trends. For example, the effect of family leave legislation among eligible

mothers (Specification 8) is still statistically insignificant. However, identifying the legislation's effect among mothers who work for covered employers (Specification 9) produces statistically significant effects: Increasing mandated family leave by twelve weeks increases maternity leave taken by 1.584 weeks in Model 2 and by 3.084 weeks in Model 3. Specification 10, which identifies the effects of family leave legislation on eligible and covered mothers, also shows that the legislation increases the weeks of leave taken by leave-takers. However, none of the specifications suggest that family leave legislation increases the incidence of leave-taking. Instead, the legislation's only positive effects are that mothers who would have taken leave prior to the mandates take an additional week or two of leave.

TABLE 5: THE EFFECT OF FAMILY LEAVE LEGISLATION ON WEEKS OF MATERNITY LEAVE TAKEN

	<u>Model 1: Took</u>		<u>Model 2: Weeks</u>		<u>Model 3: Leave</u>	
	<u>Maternity Leave</u>		<u>of Leave Taken</u>		<u>Taken by Leavers</u>	
Specification 8:						
Weeks of Mandated Family Leave (eligible women)	-0.026	(0.029)	0.002	(0.052)	-0.042	(0.103)
R-Squared	0.368		0.302		0.287	
Observations	2,877		2,877		1,113	
Specification 9:						
Weeks of Mandated Family Leave (covered employers)	0.005	(0.031)	0.132*	(0.076)	0.257**	(0.110)
R-Squared	0.206		0.263		0.316	
Observations	1,714		1,714		971	
Specification 10:						
Weeks of Mandated Family Leave (eligible and covered)	0.001	(0.040)	0.081	(0.083)	0.161*	(0.086)
R-Squared	0.261		0.285		0.313	
Observations	1,714		1,714		971	

The dependent variable in the "took maternity leave" model is a dummy variable that equals one if the mother took maternity leave from work. The dependent variable in the "weeks of leave taken" model is equal to the number of weeks of

maternity leave taken from work including zero values. The dependent variable in the “leave taken by leavers” model is the number of weeks of maternity leave taken by those who took a positive amount of maternity leave from work. *indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level. Standard errors are in parentheses. All models contain the demographic covariates, state and year dummy variables, and state-year interaction terms. In addition, Specification 8 controls for tenure, Specification 9 controls for number of employees, and Specification 10 controls for tenure and number of employees.

VI. CONCLUSIONS

Family leave legislation has no effect on the incidence of leave-taking in any of the models. Similarly, most of the models in this Article provide no evidence that family leave legislation affects the amount of leave taken in either the full sample or among leave-takers. However, those models that identify mothers who work for employers covered by the mandates produce some statistically significant results. Regardless, even where statistically significant, family leave legislation has very small effects on leave-taking. For example, the legislation’s largest effect is in Specification 9 (Model 3) where increasing family leave legislation by twelve weeks increases weeks of leave taken among leave-takers by about three weeks. The increases in leave-taking in the other models with significant effects are less than two weeks.

The small effects of family leave legislation on leave-taking found in this paper are consistent with the small or nonexistent effects of the legislation on other outcomes found in the literature. Recall that in their preferred specifications, Klerman & Leibowitz⁵¹ and Baum⁵² found no effects on employment, Klerman & Leibowitz found no effects on work, and Baum⁵³ and Waldfogel⁵⁴ found no effects on wages. Even the significant effects of the legislation on returning to work at the pre-childbirth job that Baum⁵⁵ found are small.

One potential explanation for the legislation’s small effect is that many mothers cannot afford to take the leave the mandates provides

51. Klerman & Leibowitz, *supra* note 4, at 82.

52. *Employment and Wages*, *supra* note 14.

53. *Id.*

54. Waldfogel, *supra* note 14, at 296–99.

55. *Mother’s Labor Supply*, *supra* note 14.

because it is unpaid. Thus, financial constraints may be more binding than employer constraints on the amount of leave allowed. Alternatively, only a portion of employers are covered by the mandates, and those who are covered may have been likely to provide sufficient family leave prior to the mandates. If so, then family leave legislation may not have changed many existing leave policies.

Other explanations have to do with technical limitations. If the legislation indeed has small effects, then a substantially larger data set may be required to detect significant effects. Unfortunately, the sample sizes used in this paper were small, and the size of the treatment group becomes even smaller when identifying those mothers who are eligible and covered by the mandates. This is a problem that is systemic to the literature, as indicated by the fact that Klerman & Leibowitz,⁵⁶ Waldfogel,⁵⁷ and Baum⁵⁸ used samples that were of comparable sizes. However, I should note that the family leave legislation variable's estimated standard errors are typically less than 0.100 (see Tables 3, 4, and 5). Consequently, these models have the explanatory power to reject marginal effects of roughly 0.200 at the ninety-five percent level. That is, with a standard error of 0.100, the estimates are precise enough to test whether mandating twelve weeks of family leave increases weeks of leave taken by 2.4 or more weeks.

Another technical limitation of this study is that NLSY work history data is collected retroactively and may, consequently, be inaccurate due to recall error.⁵⁹ This is important because the leave-taking variables are derived by adding the weeks of maternity leave that each mother reports after giving birth. Certainly the mother should clearly recall her child's date of birth, but she may not recall exactly how much time she took off from work. This problem should be mitigated by the NLSY surveying respondents annually—mothers should be surveyed no more than a year after giving birth.

56. Klerman & Leibowitz, *supra* note 4.

57. Waldfogel, *supra* note 14.

58. *Mother's Labor Supply*, *supra* note 14; *Employment and Wages*, *supra* note 14.

59. NLSY79 USER'S GUIDE, *supra* note 12.

While it is not clear from this Article precisely why family leave legislation has little effect on leave-taking, this Article provides the best available estimates on this outcome because it is the only study to examine leave-taking while accounting for mothers' eligibility status and employer coverage. In conjunction with other estimates in the literature, I conclude that the current mandates have had little effect. However, the estimates in this Article cannot address the effects of mandating significantly longer periods of leave or mandating paid leave because no mother in my sample receives more than seventeen weeks of unpaid leave. It is possible that such extensions would have significantly larger effects.